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EXAMINER	
HERNANDEZ, NELSON D	

ART UNIT	PAPER NUMBER
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/527,285	HAYAISHI, IKUO	
	Examiner	Art Unit	
	Nelson D. Hernández	2622	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *08 March 2005*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-11* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-11* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *3/8/2005* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *7/21/2006 & 2/8/2007*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Response to Amendment

1. The Examiner acknowledges the amended claims filed on March 8, 2005. **Claims 5-8 and 11** have been amended. **Claim 12** has been canceled.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

3. Claims 1, 2 and 9-11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nakajima et al., US 2002/0135687 A1 in view of Shiobara, JP 2000-115788 A.

Regarding claim 1, Nakajima et al. discloses an image processing device (Fig. 1: 20) for processing image data using image data generated by an image generating device (Fig. 1: 12), and image generation record information that is associated with the image data and that includes at least information (Fig. Fig. 3: 102) relating to shooting conditions at the time of generation of the image data (Page 4, ¶ 0064 – page 5, ¶ 0069), the image processing device comprising: an image quality adjuster that (Page 6, ¶ 0088 – page 8, ¶ 00109), if the image generation record information contains light source information relating to color shift of a light source at the time of generation (color

cast; see page 2, ¶ 0017; see also fig. 11) of the image data, is able to execute color adjustment process of the image data based on color of the light source obtained using the light source information (Page 4, ¶ 0064 – page 5, ¶ 0069; page 6, ¶ 0088 – page 8, ¶ 00109).

Nakajima et al. does not explicitly disclose that the color adjustment process performed to the image based on the color of the light source is specifically white balance.

However, Shiobara discloses the concept of storing the image condition related to the image captured for further processing of said image, wherein said conditions include color temperature and color of the light source used to capture the image so that the image data can be processed by said camera and further processed by a printer wherein white balance adjustment would be performed to the image based on the color of the light source (See Machine English Translation, page 2, ¶ 0002-0008; page 3, ¶ 0009-0010; page 5, ¶ 0029-0032; page 6, ¶ 0033).

Therefore, taking the combined teaching of Nakajima et al. in view of Shiobara as a whole at the time the invention was made, one of an ordinary skill in the art would find obvious to modify the teaching of Nakajima et al. to perform white balance correction based on the color of the light source. The motivation to do so would have been to properly correct the white balance regardless of the type of illumination present at the time of the photograph as suggested by Shiobara (See Machine English Translation, page 2, ¶ 0004-0006).

Regarding claim 2, the combined teaching of Nakajima et al. in view of Shiobara as discussed and analyzed in claim 1 teaches that the image quality adjuster adjusts magnitude of the white balance adjustment process based on hue of the light source (See Nakajima et al., color cast; see page 2, ¶ 0017; see also fig. 11).

Regarding claim 9, limitations have been discussed and analyzed in claim 1.

Regarding claim 10, claim 10 is a method claim of the apparatus in claim 1. Limitations have been discussed and analyzed in claim 1.

Regarding claim 11, claim 11 required a computer program stored on a computer readable medium for causing a computer to execute the image processing discussed in claims 1 and 10. Limitations have been discussed and analyzed in claim 1. Furthermore, Nakajima et al. discloses a computer program stored on a computer readable medium for causing a computer to execute the image processing (Page 2, ¶ 0024 – page 3, ¶ 0030; page 8, ¶ 0107; page 9, ¶ 0012).

4. Claims 3-7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nakajima et al., US 2002/0135687 A1 in view of Shiobara, JP 2000-115788 A and further in view of Kuwata et al., JP 2001-177733 A.

Regarding claim 3, the combined teaching of Nakajima et al. in view of Shiobara as discussed and analyzed in claim 1 teaches that the white balance adjustment process includes: (i) a process of analyzing the image data to determine an amount of color cast indicating deviation of hue of the image data from gray (Shiobara, Machine English Translation, page 2, ¶ 0002-0008; page 3, ¶ 0009-0010; page 5, ¶ 0029-0032;

page 6, ¶ 0033); (ii) a process of determining an amount of the white balance adjustment process based on the amount of color cast (See Nakajima et al., page 2, ¶ 0017; see also fig. 11; Shiobara, Machine English Translation, page 2, ¶ 0002-0008; page 3, ¶ 0009-0010; page 5, ¶ 0029-0032; page 6, ¶ 0033); and (iii) a process of executing the white balance adjustment process in accordance with the determined amount (Shiobara, Machine English Translation, page 2, ¶ 0002-0008; page 3, ¶ 0009-0010; page 5, ¶ 0029-0032; page 6, ¶ 0033); and wherein the magnitude of white balance adjustment process is adjusted by means of adjusting, based on the hue of the light source, a pre-selected processing parameter used in at least one of the processes (i) and (ii) (Nakajima et al. also teaches that the image processing is performed based on a selected mode indicating the conditions of the scene (see fig. 11), page 2, ¶ 0017; page 4, ¶ 0064 – page 5, ¶ 0069; page 6, ¶ 0088 – page 8, ¶ 00109; see also fig. 11; Shiobara, Machine English Translation, page 2, ¶ 0002-0008; page 3, ¶ 0009-0010; page 5, ¶ 0029-0032; page 6, ¶ 0033).

The combined teaching of Nakajima et al. in view of Shiobara fails to teach analyzing the pixel values of a par of pixels making up the image data to determine said amount of color cast indicating deviation of hue of the image data from gray.

However, Kuwata et al. discloses a color correction method wherein the saturation of each color pixel is calculated, then said saturation is compared to a threshold and if the saturation for the pixel is found to be smaller than said threshold, which represents gray, it is judged whether the pixel is near gray and sets said pixel as object for data analysis, said determination is performed to all pixels, then the

luminance for said pixels is calculated. After that an average luminance for said pixels used as object for data analysis is calculated and compared to an average Red, Green and Blue color to determine how far from gray is the image data used for analysis in order to calculate the amount of white balance correction required to adjust the image data (by teaching selecting a group of pixels with a saturation level near the threshold for gray color, Kuwata et al. teaches selecting a par of pixel values making up the image data to determine said amount of color cast indicating deviation of hue of the image data from gray) (See English Machine Translation, page 5, ¶ 0021 – page 7, ¶ 0032).

Therefore, taking the combined teaching of Nakajima et al. in view of Shiobara and further in view of Kuwata et al. as a whole at the time the invention was made, one of an ordinary skill in the art would find obvious to modify the teaching of Nakajima et al. and Shiobara to use a par of pixels making up the image data to determine said amount of color cast indicating deviation of hue of the image data from gray. The motivation to do so would have been to make the white balance correction reducing the effect of image part, such as a background, dress, etc. of a high saturation color as suggested by Kuwata et al. (See English Machine Translation, page 7, ¶ 0033).

Regarding claim 4, the combined teaching of Nakajima et al. in view of Shiobara and further in view of Kuwata et al. as discussed and analyzed in claim 3 teaches that the image quality adjuster establishes, as a condition for selecting pixels for the analysis from among all pixels making up the image data, a condition whereby pixels having a higher saturation value are selected for the analysis as a pixel hue comes closer to the hue of the light source, in order to adjust the magnitude of white balance adjustment

process (Kuwata et al. discloses selecting the pixels with a saturation smaller that a particular threshold related to gray and near the gray color. This teaches selecting pixels for the analysis from among all pixels making up the image data, a condition whereby pixels having a higher saturation value are selected for the analysis as a pixel hue comes closer to the hue of the light source, in order to adjust the magnitude of white balance adjustment process (English Machine Translation, page 5, ¶ 0021 – page 7, ¶ 0032) since the pixels used for correction calculation are the pixels that does not present characteristics of bright colors of the object being photographed). Grounds for rejecting claim 3 apply here.

Regarding claim 5, the combined teaching of Nakajima et al. in view of Shiobara and further in view of Kuwata et al. as discussed and analyzed in claim 3 teaches that the image quality adjuster subjects a process parameter representing a proportion of an amount of white balance adjustment process to an amount of color cast, to adjustment in such a way that the parameter is greater as the hue of the light source comes closer to a shifted hue in the image data, in order to adjust the magnitude of white balance adjustment process (See Kuwata et al., English Machine Translation, page 5, ¶ 0021 – page 7, ¶ 0032).

Regarding claim 6, the combined teaching of Nakajima et al. in view of Shiobara and further in view of Kuwata et al. as discussed and analyzed in claim 3 teaches that the image quality adjuster selects for the analysis pixels approximating achromatic color in the image data by teaching selecting the pixels closer to gray (See Kuwata et al., English Machine Translation, page 5, ¶ 0021 – page 7, ¶ 0032).

Regarding claim 7, the combined teaching of Nakajima et al. in view of Shiobara and further in view of Kuwata et al. as discussed and analyzed in claim 3 teaches the image quality adjuster selects for the analysis pixels excluding pixels of predetermined hue by teaching selecting the pixels closer to gray since the pixels that are not selected would have a different hue related to clothing, background, etc. (See Kuwata et al., English Machine Translation, page 5, ¶ 0021 – page 7, ¶ 0032).

5. **Claim 8 is rejected under 35 U.S.C. 103(a) as being unpatentable over Nakajima et al., US 2002/0135687 A1 in view of Shiobara, JP 2000-115788 A and further in view of Sato, JP 2001-339739 A.**

Regarding claim 8, the combined teaching of Nakajima et al. in view of Shiobara as discussed and analyzed in claim 1 teaches that the image quality adjuster is able to determine whether the color balance of the image data was adjusted according to user instruction at the time of generation of the image data (Nakajima et al. discloses that the user is able to select white balance adjustment (weak color cast) as shown in fig. 11) but fails to teach that if determined to have been adjusted according to user instruction, the image quality adjuster executes the white balance adjustment process using a lower magnitude than if the determination had not been made.

However, Sato teaches a white balance adjustment method wherein the amount of white balance correction is determined based on whether the color balance of the image data was adjusted according to user instruction at the time of generation of the image data and if determined to have been adjusted according to user instruction, the

image quality adjuster executes the white balance adjustment process using a lower magnitude than if the determination had not been made (as shown in the English Machine translation (page 1, page 2, ¶ 0005-0007; page 3, ¶ 0008-0009; page 5, ¶ 0022-0027; page 6, ¶ 0029 – page 8, ¶ 0043), Sato discloses that the user select different characteristics to be used as selected by the user, so if the user selects certain lighting conditions, the coefficients calculated for white balance would be reduced).

Therefore, taking the combined teaching of Nakajima et al. in view of Shiobara and further in view of Sato as a whole, it would have been obvious to one of an ordinary skill in the art at the time the invention was made to modify Nakajima et al. and Shiobara by processing white balance using a lower magnitude than if no determination of white balance of the image data was adjusted according to user instruction at the time of generation of the image data according to user instruction. The motivation to do so would have been to properly adjust the white balance of the image data without creating problems when performing the process to a person without the required skill to perform the necessary correction as suggested by Sato (Page 2, ¶ 0002-0003).

Contact

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Nelson D. Hernández whose telephone number is (571) 272-7311. The examiner can normally be reached on 9:30 A.M. to 6:00 P.M..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Lin Ye can be reached on (571) 272-7372. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Nelson D. Hernández
Examiner
Art Unit 2622

NDHH
November 1, 2007

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SUPERVISORY PATENT EXAMINER